PaperTape (Traning Period: PBI- 1st Report)

by

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Introduction

Hiccup is an AI-driven solution of PaperTape that nudges users to make healthier food choices and helps them save money by controlling their spending habits. The beginning of my internship at this company is marked by the training period under which the recruits are briefed through the various tools required and numerous expertise to be gained in the course of this time to efficiently perform the allocated tasks.

The app is supposed to give the company data about users which will be fed to neural networks to predict their behavior.

As a Developer, I would be contributing to managing databases and finding/designing neural networks or other machine learning algorithms which can predict user behavior.

Present Investigation

Over the first half of the period of this report, I was given to do some minor UI/UX changes in the app design, understand its architecture, and learn how to use pre-trained deep learning models.

Working on a product that serves a vast number of users requires an immense understanding of the architecture of the product. I studied the platform and work practices of the Hiccup Team and also the use cases that our service has for our users.

After spending a few weeks learning about transfer learning in neural networks, I was given my first major task, to classify a batch of images as a ‘forest’ or ‘birds’.

I was also required to make a database for the app on Airtable which would be used by the entire team later. This task was way tougher than it looked. Designing complex databases is tough work. But to get an understanding of what we were going to do, I had to learn it. And making the database really made me understand how the app was going to work and how the data would be interacting with the users.

Results and Discussions

The task of classifying an image into 1 of 2 categories was a matter of cutting-edge research in 2015 and is now readily accessible for development. Although it's very easy for humans to do this task, for computers it gets complicated very quickly. Large neural networks trained on a large dataset of images are needed to do even such a simple task.

The real use of deep learning models happens later on in the project but is crucial for its success as that is what makes the app unique.

The database had to be built from scratch again after some iterations and brainstorming sessions which led to a much more efficient structure than before.

Conclusions

During the training period, I got acquainted with the ways this company works and what it aspires to do with this project. I was assigned to make a database to give me a strong foundational understanding of the data which we would be generating and using in the future.

I also learned how to use neural networks for seemingly simple tasks which can be scaled later, here, classifying an image into a category. I believe that over the next couple of weeks, I will have a few more tools and platforms to explore at the end of which I will be assigned one of my long-term projects that will constitute the major work in this internship. My current task is to learn more about how to use pre-trained models for our use case.